

Amendments to the Specification:

Please add the following section after the BACKGROUND OF THE INVENTION section and prior to the DESCRIPTION OF THE DRAWINGS section:

SUMMARY OF THE INVENTION

Thus, an exemplary embodiment of the present invention is directed to a re-configurable wavelength selective device. The device includes an input fiber, where a signal comprising multiple wavelengths $\lambda_1, \lambda_2, \dots, \lambda_n$ is brought into the device. The device also includes a cross-connect switch which includes a plurality of input port fibers and an array of micro-mirror actuators and two output fibers, one for a selected wavelength λ_i and the other for the remaining wavelengths $\lambda_1, \lambda_2, \dots, \lambda_{i-1}, \lambda_{i+1}, \dots, \lambda_n$ which pass through the device unaffected.

In another exemplary embodiment of the present invention is directed to a re-configurable wavelength selective device including a MEMS cross-connect switch. The switch includes a plurality of input port fibers, at least one array of micro-mirror actuators, and an array of output fibers. The cross-connect switch is configured so that an optical signal received from any one of the input fibers may be directed to any one of the output fibers via the micro-mirror array. The device also includes an optical circulator having a first port, a second port and a third port, wherein light entering the first port exits the second port, light entering the second port exits the third port, and light entering the third port exits the first port. Also a fiber optic coupler is configured to combine all of the cross-connect switch output branches so that unselected wavelength channels exit the re-configurable wavelength drop through a single fiber port, and a plurality of fiber Bragg gratings (FBGs) are configured to provide narrow band spectral filtering by retro-reflecting the Bragg wavelength.

Another exemplary embodiment of the present invention is directed to a reconfigurable dispersion compensation device. The device includes an input fiber including a corrupted signal and a cross-connect switch that receives the corrupted signal and directs the corrupted signal to one of a plurality dispersion compensation gratings for imparting a compensating dispersion to the corrupted signal, the cross connect switch further comprising an array of micro-mirror actuators and an output for providing a compensated signal.